In re Patent Application of:
OLSSON ET AL.
Serial No. **09/147,230**
Filed: **2/9/99**

_____/

REMARKS

It is believed that all of the claims are patentable over the prior art. Accordingly, after the Examiner completes a thorough examination and finds the claims patentable, a Notice of Allowance is respectfully requested in due course. Should the Examiner determine any minor informalities that need to be addressed, he is encouraged to contact the undersigned attorney at the telephone number below.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version With Markings to Show Changes Made."

Respectfully submitted

Christopher F. Regan
Reg. No. 34,906
Allen, Dyer, Doppelt, Milbrath
& Gilchrist, P.A.
255 S. Orange Ave., Suite 1401
P. O. Box 3791
Orlando, Florida 32802-3791
(407) 841-2330
Attorney for Applicants

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

Paragraph beginning at page 5, line 24 through page 6, line 3, has been amended as follows:

Said slope of said argument function, α_k, may be estimated from the equation

$$\alpha_k = \frac{1}{N}\sum_n L\frac{(X_{n,k})/(Y_{n,k})}{n}$$

where N is the number of active carriers and $(X_{n,k})/(Y_{n,k})$ is the unwrapped argument function for the nth carrier in the kth frame.

Paragraph beginning at page 6, line 4 through page 6, line 9, has been amended as follows:

Said slope of said argument function, α_k, may be estimated from the equation

$$\alpha_k = \frac{2}{n_2 - n_0}\left[\sum_{n=n_1+1}^{n_2} L(X_{n,k})/(Y_{n,k}) - \sum_{n=n_0}^{n_1} L(X_{n,k})/(Y_{n,k})\right]$$

where N is the number of active carriers, $(X_{n,k})/(Y_{n,k})$ is the unwrapped argument function for the nth active carrier in the kth frame, indices n_0 and n_2 are the lower and upper limits respectively of the band and index n_1 divides the band into two equal parts.

Paragraph beginning at page 8, line 3 through page 8, line 7, has been amended as follows:

Said slope of said argument function, α_k, may be estimated from the equation

$$\alpha_k = \frac{1}{N}\sum_n L\frac{(X_{n,k})\underline{/}(Y_{n,k})}{n}$$

where N is the number of active carriers and $(X_{n,k})\underline{/}(Y_{n,k})$ is the unwrapped argument function for the nth carrier in the kth frame.

Paragraph beginning at page 8, line 8 through page 8, line 13, has been amended as follows:

Said slope of said argument function, α_k, may be estimated from the equation

$$\alpha_k = \frac{2}{n_2 - n_0}\left[\sum_{n=n_1+1}^{n_2} L(X_{n,k})/(Y_{n,k}) - \sum_{n=n_0}^{n_1} L(X_{n,k})\underline{/}(Y_{n,k})\right]$$

where N is the number of active carriers, $(X_{n,k})\underline{/}(Y_{n,k})$ is the unwrapped argument function for the nth active carrier in the kth frame, indices n_0 and n_2 are the lower and upper limits respectively of the band and index n_1 divides the band into two equal parts.

Paragraph beginning at page 11, line 19 through page 12, line 4, has been amended as follows:

The average slope, α_k, of the linear part of the argument function can be calculated, as shown in equation (1), or by some other standard method, using the unwrapped argument function of X_k for the kth frame

$$\alpha_k = \frac{1}{N}\sum_n L\frac{(X_{n,k})\angle(Y_{n,k})}{n} \quad \text{.....(1)}$$

where N is the number of active carriers and $(X_{n,k})\angle(Y_{n,k})$ is the unwrapped argument function for the nth carrier in the kth frame.

The equation on page 12, line 14, has been amended as follows:

$$\alpha_k = \frac{2}{n_2 - n_0}\left[\sum_{n=n_1+1}^{n_2} L(X_{n,k})/(Y_{n,k}) - \sum_{n=n_0}^{n_1} L(X_{n,k})\angle(Y_{n,k})\right] \text{.....(2)}$$

In the Claims:

Claim 39 has been amended as follows:

39. A receiver according to Claim 36 wherein the slope of the argument function α_k is estimated from an equation

$$\alpha_k = \frac{1}{N}\sum_n L\frac{(X_{n,k})/(Y_{n,k})}{n}$$

where N is the number of active carriers and (Xn,k)/(Yn,k) is the unwrapped argument function for an nth active carrier in a kth frame.

Claim 40 has been amended as follows:

40. A receiver according to Claim 36 wherein the slope of the argument function α_k is estimated from an equation

$$\alpha_k = \frac{2}{n_2 - n_0}\left[\sum_{n=n_1+1}^{n_2} L(X_{n,k})/(Y_{n,k}) - \sum_{n=n_0}^{n_1} L(X_{n,k})/(Y_{n,k})\right]$$

where N is the number of active carriers, (Xn,k)/(Yn,k) is the unwrapped argument function for an nth active carrier in a kth frame, indices n_0 and n_2 are lower and upper limits respectively of a band and index n_i which divides the band into two equal parts.

Claim 54 has been amended as follows:

54. A method according to Claim 51 wherein estimating the slope of the argument α_k uses an

$$\alpha_k = \frac{1}{N}\sum_n L\frac{(X_{n,k})/(Y_{n,k})}{n}$$

where N is the number of active carriers, (Xn,k)/(Yn,k) is the unwrapped argument function for an nth active carrier in a kth frame.

Claim 55 has been amended as follows:

55. A method according to Claim 51 wherein estimating the slope of the argument function α_k uses an equation

$$\alpha_k = \frac{2}{n_2 - n_0}\left[\sum_{n=n_1+1}^{n_2} L(X_{n,k})/(Y_{n,k}) - \sum_{n=n_0}^{n_1} L(X_{n,k})/(Y_{n,k})\right]$$

where N is the number of active carriers, (Xn,k)/(Yn,k) is the unwrapped argument function for an nth active carrier in a kth frame, indices n_0 and n_2 are lower and upper limits respectively of a band and index n_i which divides the band into two equal parts.

In re Patent Application of:
OLSSON ET AL.
Serial No. **09/147,230**
Filed: **2/9/99**

_____/

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: DIRECTOR, U.S. PATENT AND TRADEMARK OFFICE, WASHINGTON, D.C. 20231, on this 12 day of June, 2002.